

IN THE CLAIMS:

Please amend the claims as follows, this listing of the claims will replace all prior versions, and listings, of claims in the application:

Claims 1-12 (Canceled)

13. (Currently Amended) A cooking, roasting, baking or grilling device ~~wherein a part or portion thereof~~ having has a substrate with a self-cleaning coating thereon ~~which enables remnants of foodstuffs to be removed without mechanical action,~~ said coating comprising:

~~the coating having a structure formed from a plurality of porous particles having first pores therein, wherein spaces between adjacent particles form second pores which allow for solids and liquids to enter therein; and~~

~~a binder for binding said particles together at contacts points; [[and]]~~

~~said pores in said porous particles in said structure not having a solid or liquid secondary phase therein;~~

~~wherein said binder is an inorganic binder and is substantially permanently temperature resistant up to about 500 degrees C; and~~

~~wherein said inorganic binder is a colloidal solution comprising one of an inorganic polymer and an inorganic sol comprised of an inorganic colloidal solution, wherein said colloidal solution is formed with at least one of SiO₂, TiO₂, Al₂O₃, ZrO₂, SiC, Si₃N₄, and B₂O₃ and mixtures of at least two of an open cell or dense glass, a polymeric phosphate, a silicate, and a clay or water glass.~~

14. (Previously presented) The device according to claim 13, wherein said porous particles are thermally and chemically stable porous metal oxides, carbides or nitrides.

15. (Previously presented) The device according to claim 13, wherein said porous particles are at least one of SiO₂, TiO₂, Al₂O₃, ZrO₂, SiC, Si₃N₄, C and B₂O₃.

16. (Currently Amended) The device according to claim 13, wherein said porous particles have a diameter ~~substantially~~ in the range of 5 to 100 microns.

17. (Previously presented) The device according to claim 13, wherein said porous particles have open-cell pores.

18. (Canceled)

19. (Currently Amended) The device according to claim 13 ~~48~~, wherein said binder comprises particles having a diameter ~~substantially~~ in the range of 0.5 to 10 microns.

20. (Previously presented) The device according to claim 13, wherein said coating includes addition particles that function to at least one of, reduce the roughness of the coating, improve the binding between said porous particles, improve the binding between said coating and the substrate, adjust the color of said coating, or improve the thermal decomposition, the haptics or the spreading ability of said coating.

21. (Currently Amended) The device according to claim 20, wherein said ~~addition~~ additional particles are at least one of nanoscale particles, particles in the micrometer range, pigment particles, and metals, ~~including at least one of transition metals and metal oxides.~~

22. (Currently Amended) The device according to claim 21, wherein said ~~addition~~ additional particles ~~are thermally and chemically stable, and~~ comprise at least one of metal oxides, carbides and nitrides, ~~including at least SiO₂, TiO₂, Al₂O₃, ZrO₂, SiC, Si₃N₄, or B₂O₃.~~

23. (Previously presented) The device according to claim 13, wherein the part or portion is a part or portion of a baking oven muffle.

24. (Previously presented) The device according to claim 13, wherein the part or portion is a part or portion of an oven or a stove.

25. (Previously presented) The device according to claim 15, wherein said porous particles are at least one of Al_2O_3 and SiO_2 .

26. (Canceled)

27. (Currently Amended) The device according to claim 19, wherein said particles have a diameter ~~substantially~~ of about 1 to 5 microns.

28. (Currently Amended) The device according to claim 16, wherein said diameter is ~~substantially~~ about 10 to 80 microns.

29. (Currently Amended) The device according to claim 16, wherein said diameter is ~~substantially~~ about 20 to 60 microns.

30. (Currently Amended) The device according to claim 16, wherein said diameter is ~~substantially~~ about 30 to 50 microns.

31. (Canceled)

32. (Currently Amended) A cooking device having has a substrate with a self-cleaning coating thereon which enables remnants of foodstuffs to be removed without mechanical action, comprising:

the coating having a structure formed from a plurality of porous particles having pores therein and an inorganic binder being ~~substantially~~ temperature resistant up to about 500 degrees C, wherein said inorganic binder includes an inorganic colloidal solution having ZrO_2 particles in liquid phase.

33. (New) The device according to claim 13, wherein said inorganic polymer is one of a silicone resin and a polymeric phosphate.

34. (New) The device according to claim 13, wherein said first pores are less than 1 μm in diameter in order to prevent a solid or liquid from entering therein.

35. (New) The device according to claim 13, wherein said binder forms a membrane surrounding said particles, and said membrane includes pores which are small enough to prevent a solid or liquid from entering therein.

36. (New) The device according to claim 35, wherein said binder is temperature resistant up to about 500 degrees C.

37. (New) A substrate with a self-cleaning coating thereon, said coating comprising:

a plurality of particles having first pores therein, the particles comprising at least one of a metal oxide, a carbide, and a nitride, wherein spaces between adjacent particles form second pores which are larger than the first pores such that the first pores prevent a solid or liquid from entering therein and the second pores allow for solids and liquids to enter therein; and

a binder for binding said particles together at contacts points, wherein said binder is formed with at least one of a metal oxide, a carbide, and a nitride.

38. (New) A substrate with a self-cleaning coating thereon, said coating comprising:

a plurality of particles having first pores therein, the particles comprising at least one of a metal oxide, a carbide, and a nitride, wherein spaces between adjacent particles form second pores; and

a binder for binding said particles together at contacts points, wherein said binder forms a membrane surrounding said particles, wherein said binder is formed with at least one of a metal oxide, a carbide, and a nitride, and wherein said binder forms third pores which are smaller than the second pores such that the third pores prevent a solid or liquid from entering therein and the second pores allow for solids and liquids to enter therein.